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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Lon-Chan Chu

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10/18/2005

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EXAMINER

WONG, WARNER

ART UNIT

PAPER NUMBER

2668

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/992,731	<b>Applicant(s)</b> CHU ET AL.	
	<b>Examiner</b> Warner Wong	<b>Art Unit</b> 2668	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 10-12 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9,13,14,17-19,21 and 22 is/are rejected.
- 7) ☒ Claim(s) 3,4,15-16,20 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 7-9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (5,581,544) in view of Lin (5,764,641).

**Regarding claim 1 and 21**, Hamada describes as a prior art priority control scheme which can be incorporated as computer executable instructions (col. 16, lines 57-60) comprising:

- receiving an arrived of packets/cells;
- determining whether the newly arrived packet is a key (priority) frame (cell);
- detecting whether a buffer has reached a predetermined limit (full);
- deleting packets in the buffer if the predetermined limit has been reached and;
- adding the newly arrived packet to the buffer (col. 1, lines 40-44, "In a priority control scheme called push-out priority control, a single common buffer is used, and when the buffer is full of high priority and low-priority cells, if a high priority cell arrives, a low priority cell in the buffer is discarded.")

Hamada lacks what Lin describes in his background for the prioritization in transmitting and routing ATM cells encapsulating video/MPEG key and delta frames ("cells that include the image information [key frame] are more important than the cells

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that contain information for fine tuning the image [delta frame].. In MPEG applications, for example, the user may set CLP bits to 1 in the cells that contain fine tuning information.”, col. 2, lines 13-14, 27-29).

It would have been obvious to one with ordinary skill of art at the time of invention to incorporate into the network intermediate routers/nodes of Lin (col. 1, lines 45) to use the push-out priority control scheme described by Hamada. The motivation is to keep the higher priority (i.e. more important) data when the receiving buffer resource has limited space and is full, and Hamada conveys such a prioritization method whereas Lin explains a complementary way of prioritizing MPEG/video frames.

apply discard the lower priority data when it is full.

**Regarding claims 5 and 8**, Hamada describes the push-out priority control scheme which, by definition, uses a queue and inherently outputs packets from the buffer in the order received.

Hamada lacks what Lin discloses: intermediate network routers/nodes which forward the packets (transmitting the packets over a network) (col. 1, lines 44-46).

It would have been obvious to one with ordinary skill of art at the time of invention to describe the system of Lin, including the network intermediate routers/nodes, for incorporating the push-out priority control scheme of Hamada into the routers. The motivation is having “optimizing means for optimizing the priority control on the basis of said evaluated QOS” (Hamada, col. 6, lines 13-14), where the limited resource in buffering may keep the higher priority data and discard the lower priority data when it is full.

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**Regarding claim 7**, Hamada describes that the receiving step and forwarding step may be executed above a network protocol level", (i.e., in a computer software application) (col. 16, lines 57-60).

**Regarding claim 9**, Hamada and Lin disclose the prioritization scheme for MPEG transfer in a data network as per claim 1.

Hamada and Lin fail to describe that the receiving packets are sent from an originating node/conference attendee computer. It is inherent that within a data network that there are nodes originating transmission.

It would have been obvious to one with ordinary skill of art at the time of invention to understand that an originating transmitting node may be a conference attendee computer.

3. **Claims 2 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Lin as applied to claim 1 above, and further in view of Chimento (5,434,848).

Lin and Hamada describe the deletion of packets in the buffer as described in claim 1.

Lin and Hamada lack the Chimento description of discarding the newly arrived packet if the packet is a delta frame and if the buffer is full, (col. 6, lines 44-46, "low priority cells (CLP=1) are admitted to the buffer only if the occupancy of the buffer is below a predetermined threshold.")

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It would have been obvious to one of ordinary skill of art at the time of invention to delete incoming low priority cells as per Chimento in the buffering process of Lin and Hamada. The motivation is to retain higher priority (i.e. more important) data when the receiving buffer has limited space and is full.

4. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Lin as applied to claim 5 above, and further in view of Van As (5,768,258).

Lin and Hamada combined describe a buffering process for intermediate routers in communication networks as described in claim 5.

Lin and Hamada lack what Van As describes as a prior art, "wherein the forwarding step occurs as soon as downstream data traffic permits" (col. 1, lines 63-65, "A TRS uses back-pressure signals from a congested node to selectively throttle traffic by reducing the average transmission rates of congested routes", where the signal from a downstream node throttles [turns on/off] data sent from upstream).

It would have been obvious to one of ordinary skill of art at the time of invention to implement into the method of Lin and Hamada the communication of throttling signals between an upstream node and a downstream node as described by Van. The motivation is to further incorporate a congestion control means, "improve a network node by implementing in it a congestion control mechanism according to the invention" (Van, col. 2, lines 21-22).

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5. Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Blanc (2001/0036157).

Regarding claim 13, Hamada describes as a prior art priority control scheme comprising:

receiving a newly arrived packet of a video stream, the packets defining respective key frames and a delta frames,  
determining whether the newly arrived packet is a key (priority) frame, and  
deleting the packets in the buffer if the buffer contents have reached a predetermined limit (col. 1, lines 40-44, "In a priority control scheme called push-out priority control, a single common buffer is used, and when the buffer is full of high priority and low-priority cells, if a high priority cell arrives, a low priority cell in the buffer is discarded.")

Hamada lacks what Blanc describes in his background for the prioritization in video/MPEG key (I-frames) and delta (P and B) frames (paragraph 10, "I-frames deserve the highest priority.. Decoders which receive MPEG video signals can accommodate some loss or delay of P-frames and B-frames without causing any noticeable degradation in the quality of a reconstructed image"). Blanc also discloses a method/system comprising:

providing a plurality of buffers at a conference server [network node], each of the buffers corresponding to a respective attendee destination (paragraph 21, "nodes in a network may perform the data forwarding functions in different ways.");

forwarding non-deleted packets from the buffer to the corresponding attendee destination, (paragraph 21, "Each of the output ports includes an egress or output buffer 252 which provides temporary storage for packets directed to the output port through the switch fabric 210").

It would have been obvious to one with ordinary skill of art at the time of invention to incorporate into each buffer queue of the intermediate network nodes of Blanc (fig. 2) to use the push-out priority control as described by Hamada. The motivation is to keep the higher priority (i.e. more important) data when the receiving buffer resource has limited space and is full, and Hamada conveys such a prioritization method whereas Blanc explains a complementary way of prioritizing MPEG/video frames.

**Regarding claim 19**, Hamada and Blanc describe the buffering process in a data network as described in claim 13.

Hamada and Blanc fail to mention an attendee computer (terminating node) receiving packets forwarded from the server (originating node). It is inherent that within a data network that there are originating and terminating nodes.

It would have been obvious to one with ordinary skill of art at the time of invention to understand an originating transmitting node may be an attendee computer and a terminating node which may be a server.

6. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Blanc as applied to claim 13 above, and further in view of Chimento.

Hamada and Blanc describe the buffering process as described in claim 13.



Hamada and Blanc lack the Chimento description of discarding the newly arrived packet if the packet is a delta frame and if the buffer is full, (col. 6, lines 44-46, "low priority cells (CLP=1) are admitted to the buffer only if the occupancy of the buffer is below a predetermined threshold.")

It would have been obvious to one with ordinary skill of art at the time of invention to delete incoming low priority cells as per Chimento in the buffering process of Hamada and Blanc. The motivation is to provide priority control of data in buffer, where the limited resource in buffering may keep the higher priority data and discard the (incoming) lower priority data when it is full.

The motivation is to keep the higher priority (i.e. more important) data when the receiving buffer resource has limited space and is full, and Chimento conveys an alternative way to keep the higher priority data other than discarding data from the buffer.

7. **Claim 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Blanc as applied to claim 13 above, and further in view of Salesky (6,343,313).

**Regarding claim 17**, Hamada and Blanc describe the buffering process as described in claim 13.

Hamada and Blanc lack what Salesky discloses, "transmitting the packets over a network to an attendee destination according to a verified-delivery protocol [TCP]" (col. 30, lines 4-7, "client-server protocol provided by the system, which might be a

combination of Transmission Control Protocol ("TCP") and User Datagram Protocol ("UDP").")

It would have been obvious to one with ordinary skill of art at the time of invention to specify the use of TCP (verified-delivery protocol) as per Salesky for the network packet transmission of Hamada and Blanc. The motivation is that TCP is a well-known art/standard which is compatible to many existing network-based products and need not be developed (as opposed to a self-develop/proprietary verified-delivery protocol).

**Regarding claim 18**, Hamada and Blanc describe the buffering process as described in claim 17.

Hamada and Blanc lack what Salesky discloses: use of TCP protocol in transmitting the packets (col. 30, lines 4-7, "client-server protocol provided by the system, which might be a combination of Transmission Control Protocol ("TCP") and User Datagram Protocol ("UDP").")

It would have been obvious to one with ordinary skill of art at the time of invention to specify the use of TCP as per Salesky for the network packet transmission of Hamada and Blanc. The motivation is that TCP is a well-known art/standard which is compatible to many existing network-based products and need not be developed (as opposed to a self-develop/proprietary verified-delivery protocol).

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***Allowable Subject Matter***

8. Claims 3-4, 15-16, 20 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. Claims 10-12 allowed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 5:30AM - 2:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Warner Wong  
Examiner  
Art Unit 2668



CHIEH M. FAN  
PRIMARY EXAMINER